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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,657	12/21/2000	Hidenori Nishikawa	JP9 1999 0204 US1	6991

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EXAMINER
MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10 December 2002_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-11_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. **DOV POPOVICI**

**SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Remarks

1. In response to communications filed on 10-December-2002, new claims 6-11 are added per

applicant's request. Therefore, claims 1-11 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1 and 6-8 are rejected under 35 U.S.C. 102(e) as being anticipated by <u>Mital et al</u> (U.S.

Patent No. 6,189,012.)

As to claim 1, <u>Mital et al</u> teaches a database system, for storing and managing data that

are used by application programs to execute a specific operation (see Abstract), comprising:

a hierarchical node database wherein data used for the application programs are stored as

node data in data records (see Abstract, and see figures 1 and 9.)

a hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9), provided

for each of the application programs (see column 8, lines 53-58), wherein relationship data

(see column 11, lines 45-51), which define the hierarchical structure of the node data that are

stored in the hierarchical node database, are stored as data entries in the data records (see

figure 9.)

As to claim 6, Mital et al teaches a database system for storing and managing data for use

by a plurality of application programs that perform distinct operations (see Abstract),

comprising:

a hierarchical node database for storing node data to be used by a first and a second

application program (see Abstract, and see figures 1 and 9);

a first hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9) for

defining a first unique hierarchical structure of the node data (see column 24, lines 43-45) for

the first application program (see column 8, lines 53-58); and

a second hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9) for

defining a second unique hierarchical structure of the node data (see column 24, lines 45-46)

for the second application program (see column 8, lines 53-58).

As to claim 7, Mital et al teaches wherein the node database (see Abstract) comprises a

plurality of data entries (see column 24, lines 39-42), each having a node identifier and a set

of node attributes (see column 10, lines 22-25, where "node identifier" is read on "object

identifier", and "set of node attributes" is read on "object classes".)

As to claim 8, <u>Mital et al</u> teaches wherein the each hierarchical link table (see column 8,

lines 24-30, and see figures 1, 4, and 9) includes a set of links that define relationships

between parent and child nodes using the node identifiers from the node database (see

column 6, lines 49-60, and see column 17, lines 14-25.)

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

5.   Claims 2-3 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Mital et</u>

<u>al</u> (U.S. Patent No. 6,189,012) in view of <u>Fehskens et al</u> (U.S. Patent No. 6,438,591.)

As to claim 2, <u>Mital et al</u> teaches hierarchical link table (see column 8, lines 24-30, and

see figures 1, 4, and 9.)

<u>Mital et al</u> does not teach wherein effective period data that define effective periods for

the data records are stored as data entries in the data records.

<u>Fehskens et al</u> teaches an entity management system (see Abstract), in which he teaches

wherein effective period data that define effective periods for the data records (see column

29, line 60 through column 30, line 10) are stored as data entries in the data records (see column 30, lines 29-36.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al to include wherein effective period data that define effective periods for the data records are stored as data entries in the data records.

It would have been obvious to a person having ordinary skill in the art to have modified Mital et al by the teaching of Fehskens et al, because wherein effective period data that define effective periods for the data records are stored as data entries in the data records, would enable the user to define effective periods (start, end, and duration times) for data elements and would further enable the user to obtain information on data such as the values of particular data elements at or during a certain period of time.

As to claim 3, Mital et al as modified teaches wherein, in the hierarchical node database, the effective period data that define the effective periods for the data records (see Fehskens et al, column 29, line 60 through column 30, line 10) are stored as data entries in individual data fields (see Fehskens et al, column 28, line 61 through column 29, line 2, and see column 30, lines 29-36.)

As to claim 9, Mital et al teaches hierarchical link table (see column 8, lines 24-30, and see figures 1, 4, and 9.)

Mital et al does not teach wherein each hierarchical link table includes time period fields for each link to optionally establish start and end times for each link.

Fehskens et al teaches an entity management system (see Abstract), in which he teaches wherein each hierarchical link table includes time period fields for each link to optionally establish start and end times for each link (see column 29, line 60 through column 30, line 10.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al to include wherein each hierarchical link table includes time period fields for each link to optionally establish start and end times for each link.

It would have been obvious to a person having ordinary skill in the art to have modified Mital et al by the teaching of Fehskens et al, because wherein each hierarchical link table includes time period fields for each link to optionally establish start and end times for each link, would enable the user to define effective periods (start, end, and duration times) for data elements and would further enable the user to obtain information on data such as the values of particular data elements at or during a certain period of time.

As to claim 10, Mital et al does not teach wherein the each data entry in the node database includes time period fields to optionally establish start and end times for each data entry.

Fehskens et al teaches an entity management system (see Abstract), in which he teaches wherein the each data entry in the node database includes time period fields to optionally

establish start and end times for each data entry (see column 29, line 60 through column 30, line 10.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al to include wherein the each data entry in the node database includes time period fields to optionally establish start and end times for each data entry.

It would have been obvious to a person having ordinary skill in the art to have modified Mital et al by the teaching of Fehskens et al, because wherein the each data entry in the node database includes time period fields to optionally establish start and end times for each data entry, would enable the user to define effective periods (start, end, and duration times) for data elements and would further enable the user to obtain information on data such as the values of particular data elements at or during a certain period of time.

6. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mital et al (U.S. Patent No. 6,189,012) in view of Fehskens et al (U.S. Patent No. 6,438,591) as applied to claims 2-3 above, and further in view of Suver (U.S. Patent No. 6,016,497.)

As to claim 4, Mital et al as modified teaches wherein each of the data records in the hierarchical node database (see Mital et al, figures 1 and 9) includes a fixed-length column in which only data entries having a constant size are stored (see Mital et al, column 5, lines 54-65, and see figures 2-4.)

Mital et al as modified does not teach wherein each of the data records includes a variable-length column in which only data having variable sizes are stored.

Suver teaches a method and system for storing and accessing embedded information in object-relational databases (see Abstract), in which he teaches the data records includes a variable-length column in which only data having variable sizes are stored (see column 9 lines 15-26.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al as modified to include wherein each of the data records includes a variable-length column in which only data having variable sizes are stored.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Mital et al as modified, by the teachings of Suver, because the data records includes a variable-length column in which only data having variable sizes are stored, would prevent the data objects' decomposed into atomic elements, and as further taught by Suver, "variable-length rows are typically much smaller than flat, dense, fixed-length representations. Therefore, more rows of data will fit on each disk page, which improves effective disk input/output and memory cache efficiency (see Suver, column 27, lines 12-17.)

As to claim 5, Mital et al as modified teaches the database system further comprising a cycle control table in which cycle data are entered to define execution timings for the application programs that execute operations at constant time intervals (see Fehskens et al, column 3, line 66 through column 4, line 13, where "cycle control table" is read on "commands specifying a time schedule", and "time intervals" is read on "associated time".)

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mital et al (U.S.

Patent No. 6,189,012) in view of Lu et al (U.S. Patent No. 6,351,487.)

As to claim 11, Mital et al does not teach wherein the first application program provides a

first rate scheme for a telecommunications provider, and the second application program

provides a second rate for the telecommunications provider.

Lu et al teaches a digital subscriber line device driver (see Abstract), in which he teaches

wherein the first application program (see column 14, lines 58-60) provides a first rate

scheme for a telecommunications provider, and the second application program (see column

14, lines 60-62) provides a second rate for the telecommunications provider (see column 23,

lines 57-63.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Mital et al to include the first application

program provides a first rate scheme for a telecommunications provider, and the second

application program provides a second rate for the telecommunications provider.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Mital et al by the teachings of Lu et al, because

wherein the first application program provides a first rate scheme for a telecommunications

provider, and the second application program provides a second rate for the

telecommunications provider, would enable the database system to obtain and provide users

the rate schemes for different telecommunications providers.

Response to Arguments

8. Applicant's arguments filed on 10-December-2002 with respect to claims 1-5 have been fully

considered but they are moot in view of the new grounds for rejection.

Conclusion

9. Any inquiries concerning this communication or earlier communications from the examiner

should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The

examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

February 10, 2003

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